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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/707,822	01/14/2004	Chorng-Kuang Wang	MTKP0038USA	1821

27765 7590 06/27/2007

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EXAMINER
FLORES, LEON

ART UNIT	PAPER NUMBER
2611	

NOTIFICATION DATE	DELIVERY MODE
06/27/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/707,822	WANG ET AL.	
	Examiner	Art Unit	
	Leon Flores	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 May 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) *3,6,8 and 11* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4,5,7,9,10 and 12-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 January 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims (1-2, 4-6, 9-10, 12-15) have been considered but are moot in view of the new ground(s) of rejection.

Response to Remarks

Claim 1

The applicant asserts that, "the claimed limitations of determining a portion of the first signal and modifying the second signal by the portion of the first signal are neither taught nor suggested by Wynn".

The examiner disagrees. As you can clearly see in figure 3 the phase correction is a function of both the I and Q signals. However, taking the contrary, the examiner has issued new ground of rejection to substantiate for this limitation.

The applicant asserts that, in page 8, "the combined teachings of Wynn and Jeong fail to teach or suggest the claimed limitations in claim 1".

The examiner disagrees. Claim 1 was previously rejected by using the reference of Wynn, and not the combination thereof.

Claims 2-3

See new ground of rejection.

Claim 7

See arguments in claim 1 above.

Claims 9, 10, and 13

See new ground of rejection.

Claim 4

Applicant asserts that, "the claimed step of utilizing the programmable phase calibration device to reduce the phase mismatch in the pair of quadrature signals through modifying the second signal by a portion of the first signal is neither taught nor suggested by combined teachings of Wynn and Jeong, and claim 4 has overcome the rejections under 35 U.S.C. 103(a)"

The examiner disagrees. See arguments in claim 1 above.

Claim 5

See new ground of rejection.

Claim 12

See new ground of rejection.

Claims 14 & 15

See office action below.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims (1-3, 7-10, & 13) are rejected under 35 U.S.C. 102(b) as being anticipated by Wynn (US Patent 6,009,317) for the same reasons as set forth in the last office action.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims (4-6) are rejected under 35 U.S.C. 103(a) as being unpatentable over Wynn (US Patent 6,009,317) in view of Jeong (US Publication 2003/0095589 A1) for the same reasons as set forth in the last office action.

4. Claims (11 & 12) are rejected under 35 U.S.C. 103(a) as being unpatentable over Wynn (US Patent 6,009,317) and Jeong (US Publication 2003/0095589 A1), and further

in view of Underwood et al. (US Patent 4,937,535) for the same reasons as set forth in the last office action.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims (1-2) are rejected under 35 U.S.C. 102(b) as being anticipated by Glas (US Patent 6,330,290 B1).

Re claim 1, Glas discloses a method for reducing amplitude mismatch and phase mismatch in quadrature signals in an RF receiver, wherein the quadrature signals comprises a first signal and a second signal that are at about quadrature phase angles, the method comprises: determining a portion of the first signal (See fig. 2: the output of element 102); and modifying the second signal by the portion of the first signal so that a phase difference between the modified second signal and the first signal becomes substantially close to 90 degrees. (See fig. 2: 106 & equations 18-23)

Re claim 2, Glas further discloses compensating the portion of the first signal to the second signal to reduce phase mismatch in the pair of quadrature signals. (See fig. 2: 106 & equations 18-23)

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. **Claims (4-5) are rejected under 35 U.S.C. 103(a) as being unpatentable over Wynn (US Patent 6,009,317), in view of Glas (US Patent 6,330,290 B1), and further in view of Jeong (US Publication 2003/0095589 A1).**

Re claim 4, Wynn discloses a method used in an RF receiver for reducing an image cross talk, the RF receiver comprising: a first mixer and a second mixer for receiving RF signals and respectively generating a first signal and a second signal that are at about quadrature phase angles; and a programmable phase calibration device coupled to the pair of mixers for reducing phase mismatch in the pair of quadrature signals when the phase mismatch causes the image cross talk; the method comprising: utilizing the pair of mixers to process the RF signal and to output the pair of quadrature signals.

But the reference of Wynn fails to specifically disclose utilizing the programmable phase calibration device to reduce the phase mismatch in the pair of quadrature signals through modifying the second signal by a portion of the first signal.

However, Glas does. (See fig. 2: 102 & 106 & equations 18-23) Glas discloses a system that compensates for phase and amplitude imbalances by modifying the second signal by a portion of the first signal.

Therefore, taking the combined teachings of Wynn and Glas as a whole. It would have been obvious to one of ordinary skills in the art to have incorporated this feature into the system of Wynn, in the manner as claimed and as taught by Glas, for the benefit of providing imbalance compensation.

The combination of Wynn and Glas discloses the limitations as claimed above, except they do not specifically disclose that wherein two ports of the programmable phase calibration device are respectively connected to two output ports of the pair of mixers.

However, Jeong does. (See fig. 1: elements 114 & 104 as a whole) Jeong discloses an apparatus for estimating and correcting gain and phase imbalance in a CDMA system. Gain and phase imbalance correction takes place after the incoming signal has been converted from RF to baseband and digitized. Furthermore, one skilled in the art would know that direct conversion receiver is achieved by downconverting or mixing the RF signal with a local oscillator.

Therefore, taking the combined teachings of Wynn, Glas and Jeong as a whole, it would have been obvious to one of ordinary skill in the art to have modified the system

of Wynn, as modified by Glas, in the manner as claimed, and as taught by Jeong, for the benefit of detecting and correcting gain and phase imbalances.

Re claim 5, the combination of Wynn, Glas, and Jeong further discloses utilizing the programmable phase calibration device to compensate the portion of the first signal to the second signal so that phase difference between the compensated second signal and the first signal becomes 90 degrees. (In Glas, see fig. 2: 102 & 106)

10. **Claims (7, 9-10, 13-14) are rejected under 35 U.S.C. 103(a) as being unpatentable over Wynn (US Patent 6,009,317), in view of Glas (US Patent 6,330,290 B1).**

Re claim 7, Wynn discloses an RF receiver comprising: a first mixer and a second mixer for receiving RF signals and respectively generating a first signal and a second signal that are at about quadrature phase angles; and a phase calibration module coupled to at least one of the first mixer and the second mixer for combining a portion of the first signal with the second signal so as to make the phase difference of the first signal and the second signal substantially equal to 90 degrees.
But the reference of Wynn fails to specifically disclose combining a portion of the first signal with the second signal so as to compensate any phase imbalances.

However, Glas does. (See fig. 2: 102 & 106 & equations 18-23) Glas discloses a system that provides IQ imbalance compensation by adding a portion of a first signal to a second signal.

Therefore, taking the combined teachings of Wynn and Glas as a whole. It would have been obvious to one of ordinary skills in the art to have incorporated this feature into the system of Wynn, in the manner as claimed and as taught by Glas, for the benefit of providing imbalance compensation.

Re claim 9, the combination of Wynn and Glas further discloses that wherein the phase calibration module further comprises a phase calibration device coupled between the first mixer and the second mixer. (In Wynn, see fig. 3: element 79)

Re claim 10, the combination of Wynn and Glas further discloses an analog front end controller (AFE controller) coupled to and controlling the phase calibration module so as to make the phase difference of the first signal and the second signal substantially equal to 90 degrees. (In Wynn, see fig. 3: element 62. Furthermore, processor acts as a controller in that it controls and balances the imbalances associated with the quadrature signals.)

Re claim 13, the combination of Wynn and Glas further discloses a GSM communications system or a WLAN communications system. (In Wynn, see col. 1, line 62, where it discloses a RF receiver.)

Re claim 14, the combination of Wynn and Glas further discloses a complex filter, having input ports electrically connected to the phase calibration module. (In Wynn, see fig. 3: 82 & 84. The I and Q signals are complex signals.)

11. **Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wynn (US Patent 6,009,317) and Glas (US Patent 6,330,290 B1), as applied to claim 7 above, and further in view of Underwood et al. (US Patent 4,937,535).**

Re claim 12, the combination of Wynn and Glas fails to disclose that wherein the phase calibration module comprises a cross programmable gain amplifier (XPGA).

However, Underwood et al. does (See col. 3, lines 1-67, col. 4, lines 1-5.) Underwood discloses a programmable phase-gain amplifier that controls and changes the gain and phase of a signal.

Therefore, taking the combined teachings of Wynn, Glas, Jeong and Underwood as a whole, it would have been obvious to one of ordinary skill in the art to have incorporated a programmable gain amplifier in the manner as claimed, for the benefit of providing gain adjustments. (In Underwood, see col. 4, lines 15-23)

12. **Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wynn (US Patent 6,009,317).**

Re claim 15, Wynn discloses an RF receiver comprising: a first mixer and a second mixer for receiving RF signals and respectively generating a first signal and a second signal that are at about quadrature phase angles (See fig. 3: 74 & 76); an

amplitude calibration module coupled to at least one of the first mixer and the second mixer, for adjusting the amplitude of at least one of the first signal and the second signal so as to make the amplitude of the first signal and the second signal substantially equal (See fig. 3: 86 & 88).

But the reference of Wynn fails to specifically disclose a complex filter, having input ports electrically connected to the amplitude calibration module.

However, the reference of Wynn does teach a pair of filters electronically connected to a pair of amplitude calibration modules. Furthermore, the examiner has determined that there is no significant advantage of placing the pairs of filters either at the output/input port of the amplitude calibration modules if the objective is to filter/smooth the complex signals.

Therefore, it would have obvious to one of ordinary skills in the art to have placed the filters at the output ports of the amplitude calibration modules for the benefit of providing smoother complex signals.

13. Claims (1-2) are rejected under 35 U.S.C. 102(b) as being anticipated by Ozluturk et al. (hereinafter Ozluturk) (US Publication 2002/0110201 A1)

Re claim 1, Ozluturk discloses a method for reducing amplitude mismatch and phase mismatch in quadrature signals in an RF receiver, wherein the quadrature signals comprises a first signal and a second signal that are at about quadrature phase angles, the method comprises: determining a portion of the first signal (See fig. 3 & paragraphs 34-40); and modifying the second signal by the portion of the first signal so that a phase

difference between the modified second signal and the first signal becomes substantially close to 90 degrees. (See fig. 3 & paragraphs 34-40)

14. **Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wynn (US Patent 6,009,317), in view of Ozluturk et al. (hereinafter Ozluturk) (US Publication 2002/0110201 A1), and further in view of Jeong (US Publication 2003/0095589 A1).**

Re claim 4, Wynn discloses a method used in an RF receiver for reducing an image cross talk, the RF receiver comprising: a first mixer and a second mixer for receiving RF signals and respectively generating a first signal and a second signal that are at about quadrature phase angles; and a programmable phase calibration device coupled to the pair of mixers for reducing phase mismatch in the pair of quadrature signals when the phase mismatch causes the image cross talk; the method comprising: utilizing the pair of mixers to process the RF signal and to output the pair of quadrature signals.

But the reference of Wynn fails to specifically disclose utilizing the programmable phase calibration device to reduce the phase mismatch in the pair of quadrature signals through modifying the second signal by a portion of the first signal.

However, Ozluturk does. (See fig. 3 & paragraphs 34-40) Ozluturk discloses a system that compensates for phase and amplitude imbalances by modifying the second signal by a portion of the first signal.

Therefore, taking the combined teachings of Wynn and Ozluturk as a whole. It would have been obvious to one of ordinary skills in the art to have incorporated this feature into the system of Wynn, in the manner as claimed and as taught by Ozluturk, for the benefit of providing imbalance compensation.

The combination of Wynn and Ozluturk discloses the limitations as claimed above, except they do not specifically disclose that wherein two ports of the programmable phase calibration device are respectively connected to two output ports of the pair of mixers.

However, Jeong does. (See fig. 1: elements 114 & 104 as a whole) Jeong discloses an apparatus for estimating and correcting gain and phase imbalance in a CDMA system. Gain and phase imbalance correction takes place after the incoming signal has been converted from RF to baseband and digitized. Furthermore, one skilled in the art would know that direct conversion receiver is achieved by downconverting or mixing the RF signal with a local oscillator.

Therefore, taking the combined teachings of Wynn, Ozluturk and Jeong as a whole, it would have been obvious to one of ordinary skill in the art to have modified the system of Wynn, as modified by Ozluturk, in the manner as claimed, and as taught by Jeong, for the benefit of detecting and correcting gain and phase imbalances.

15. **Claims (7 & 15) are rejected under 35 U.S.C. 103(a) as being unpatentable over Wynn (US Patent 6,009,317) in view of Ozluturk et al. (hereinafter Ozluturk) (US Publication 2002/0110201 A1).**

Re claim 7, Wynn discloses an RF receiver comprising: a first mixer and a second mixer for receiving RF signals and respectively generating a first signal and a second signal that are at about quadrature phase angles; and a phase calibration module coupled to at least one of the first mixer and the second mixer for combining a portion of the first signal with the second signal so as to make the phase difference of the first signal and the second signal substantially equal to 90 degrees.

But the reference of Wynn fails to specifically disclose combining a portion of the first signal with the second signal so as to compensate any phase imbalances.

However, Ozluturk does. (See fig. 3 & paragraphs 34-40) Ozluturk discloses a system that compensates for phase and amplitude imbalances by modifying the second signal by a portion of the first signal.

Therefore, taking the combined teachings of Wynn and Ozluturk as a whole. It would have been obvious to one of ordinary skills in the art to have incorporated this feature into the system of Wynn, in the manner as claimed and as taught by Ozluturk, for the benefit of providing imbalance compensation.

Re claim 15, the combination of Wynn and Ozluturk discloses an RF receiver comprising: a first mixer and a second mixer for receiving RF signals and respectively generating a first signal and a second signal that are at about quadrature phase angles (In Wynn, see fig. 3: 74 & 76); an amplitude calibration module coupled to at least one of the first mixer and the second mixer, for adjusting the amplitude of at least one of the first signal and the second signal so as to make the amplitude of the first signal and the

second signal substantially equal (In Wynn, see fig. 3: 86 & 88), and a complex filter, having input ports electrically connected to the amplitude calibration module. (In Ozluturk, see fig. 2: 33I & 33Q.)

16. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Wiss (US Publication 2002/0097812 A1).

Re claim 1, Wiss discloses a method for reducing amplitude mismatch and phase mismatch in quadrature signals in an RF receiver, wherein the quadrature signals comprises a first signal and a second signal that are at about quadrature phase angles, the method comprises: determining a portion of the first signal (See fig. 5: the output of element 16); and modifying the second signal by the portion of the first signal so that a phase difference between the modified second signal and the first signal becomes substantially close to 90 degrees. (See fig. 5: 18 & paragraphs 58 & 60)

17. **Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wynn (US Patent 6,009,317), in view of Wiss (US Publication 2002/0097812 A1), and further in view of Jeong (US Publication 2003/0095589 A1).**

Re claim 4, Wynn discloses a method used in an RF receiver for reducing an image cross talk, the RF receiver comprising: a first mixer and a second mixer for receiving RF signals and respectively generating a first signal and a second signal that are at about quadrature phase angles; and a programmable phase calibration device

coupled to the pair of mixers for reducing phase mismatch in the pair of quadrature signals when the phase mismatch causes the image cross talk; the method comprising: utilizing the pair of mixers to process the RF signal and to output the pair of quadrature signals.

But the reference of Wynn fails to specifically disclose utilizing the programmable phase calibration device to reduce the phase mismatch in the pair of quadrature signals through modifying the second signal by a portion of the first signal.

However, Wiss does. (See fig. 5: 18 & paragraphs 58 & 60) Wiss discloses a system that compensates for phase and amplitude imbalances by modifying the second signal by a portion of the first signal.

Therefore, taking the combined teachings of Wynn and Wiss as a whole. It would have been obvious to one of ordinary skills in the art to have incorporated this feature into the system of Wynn, in the manner as claimed and as taught by Wiss, for the benefit of providing imbalance compensation.

The combination of Wynn and Wiss discloses the limitations as claimed above, except they do not specifically disclose that wherein two ports of the programmable phase calibration device are respectively connected to two output ports of the pair of mixers.

However, Jeong does. (See fig. 1: elements 114 & 104 as a whole) Jeong discloses an apparatus for estimating and correcting gain and phase imbalance in a CDMA system. Gain and phase imbalance correction takes place after the incoming signal has been converted from RF to baseband and digitized. Furthermore, one

skilled in the art would know that direct conversion receiver is achieved by downconverting or mixing the RF signal with a local oscillator.

Therefore, taking the combined teachings of Wynn, Wiss and Jeong as a whole, it would have been obvious to one of ordinary skill in the art to have modified the system of Wynn, as modified by Wiss, in the manner as claimed, and as taught by Jeong, for the benefit of detecting and correcting gain and phase imbalances.

18. **Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wynn (US Patent 6,009,317) in view of Wiss (US Publication 2002/0097812 A1).**

Re claim 7, Wynn discloses an RF receiver comprising: a first mixer and a second mixer for receiving RF signals and respectively generating a first signal and a second signal that are at about quadrature phase angles; and a phase calibration module coupled to at least one of the first mixer and the second mixer for combining a portion of the first signal with the second signal so as to make the phase difference of the first signal and the second signal substantially equal to 90 degrees.

But the reference of Wynn fails to specifically disclose combining a portion of the first signal with the second signal so as to compensate any phase imbalances.

However, Wiss does. (See fig. 5: 18 & paragraphs 58 & 60) Wiss discloses a system that compensates for phase and amplitude imbalances by modifying the second signal by a portion of the first signal.

Therefore, taking the combined teachings of Wynn and Wiss as a whole. It would have been obvious to one of ordinary skills in the art to have incorporated this

feature into the system of Wynn, in the manner as claimed and as taught by Wiss, for the benefit of providing imbalance compensation.

Claims 3, 6, 8, and 11 were cancelled by the applicant.

Conclusion

19. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leon Flores whose telephone number is 571-270-1201. The examiner can normally be reached on Mon-Fri 7-5pm Alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Payne can be reached on 571-272-3024. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LF
June 9, 2007

DAVID C. PAYNE
SUPERVISORY PATENT EXAMINER